SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Alternative Water Supply Program

Fiscal Year 2003 Annual Report

January 2003

Promoting water conservation by developing cost-effective and safe alternative water resources to offset the growing demand on our natural supplies of freshwater.

sfwmd.gov

Introduction

For more than a decade, the South Florida Water Management District (SFWMD) has been engaged in cooperative funding agreements for alternative water supply systems and stormwater management projects. In 1995, the state passed legislation formalizing the cooperative agreement program and established the Alternative Water Supply (AWS) Funding Program. The SFWMD has cooperatively funded a total of 97 projects since 1995 with $25 million in tax revenues, producing over 250 million gallons of water daily.

Section 373.1961(2), Florida Statutes (F.S.) encourages governing boards of the water management districts to include funding for the development of alternative water supply systems in their annual budgets. Water management districts must share a portion of their ad valorem tax revenues with public and private entities willing to develop suitable alternative water resources. Alternative water supply systems are defined by Section 373.1961(2)(h), F.S.:

> (h) For purposes of this subsection, alternative water supplies are supplies of water that have been reclaimed after one or more public supply, municipal, industrial, commercial, or agricultural uses, or are supplies of stormwater, or brackish or salt water, that have been treated in accordance with applicable rules and standards sufficient to supply the intended use.

The statute further requires that each district submit an annual report on alternative water supply funding to the Governor, the President of the Senate and the Speaker of the House of Representatives. This report will describe all alternative water supply projects funded by the SFWMD for fiscal year (FY) 2003 and is intended to satisfy the reporting requirement of the statute. The fiscal year began on October 1, 2002 and will end on September 31, 2003.

In FY 2003, SFWMD contributed $4 million to 16 water supply projects as part of the AWS Funding Program.

Background

The SFWMD began a program of cooperative funding with local governments and other entities in 1986. Since that time, the SFWMD has been cost-sharing water supply and stormwater management projects with local governments.

Since the cooperative funding program began, the level of funding has varied from year to year (**Figure 1**). The establishment of the AWS Funding Program in 1995 modified the SFWMD's cooperative funding program to include only alternative water supply capital projects, introduce a selection process and determine a timeline for project construction.

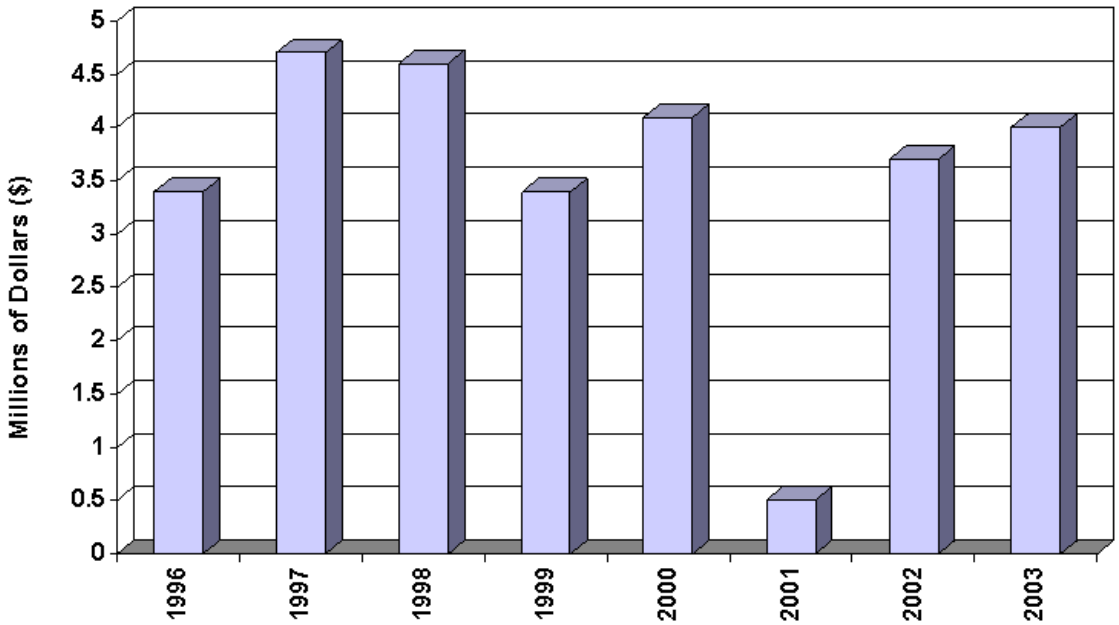

Figure 1. Annual Program Funding

Fiscal Year 2003 Alternative Water Supply Funding Program

To be eligible for the AWS Funding Program, projects must propose the development of capital facilities for effective and appropriate alternative water supplies.

The SFWMD established an AWS Funding Selection Committee composed of utility and environmental interest representatives. In FY 2003, the SFWMD received 17 requests for funding in response to the AWS Funding Program application process. All but one of the 17 proposals were deemed eligible for consideration. A public workshop was held to allow committee members to discuss the proposals with the applicants. The four-member committee reviewed and ranked the proposals based on statutory requirements and evaluation criteria established by SFWMD's Governing Board. The selection committee then recommended a list of eligible projects to the Governing Board. As part of the overall budget process, the Governing Board established the funding level for the entire AWS Program and each of the eligible project proposals.

All sixteen eligible proposals received were approved for the AWS Funding Program in FY 2003. A summary of the projects that are being funded is presented in **Table 1**, showing SFWMD funding, total project costs and additional water in million gallons per day (mgd).

Table 1. Summary of FY 2002-2003 Alternative Water Supply Grant Program Projects and Funding

Applicant Project Title Project Description	Additional Water (mgd)	SFWMD Funding	Total Project Cost
City of West Palm Beach **Advanced Wastewater Treatment Wetlands Reclamation** The project involves the construction of a conveyance system for reclaimed water to a wetlands-based reclamation system. Berms will be constructed around the perimeter of the wetland site.	10	$300,000	$6,100,000
City of Pompano Beach **Reclaimed Water Distribution System Phase 3** The project consists of installation of 16,300 feet of reclaimed water transmission main throughout a residential area. The project will serve as the "back bone" of a system that will establish reclaimed water availability to customers. This Phase III project will extend reclaimed water distribution mains to residents within a 525 acre area.	1.7	$300,000	$2,280,643
City of Cape Coral **Brackish Water Supply Well** The project consists of installation of a deep aquifer well, for public water supply purposes in the Lower Hawthorn (Floridan Aquifer) and installation of a raw water transmission main to provide water to the City of Cape Coral. The project will provide additional water supply for the City from a source recommended in the 2000 Lower West Coast Water Supply Plan.	0.7	$180,000	$360,000
Town of Palm Beach **Alternate Irrigation Water Facilities** Installation of a reclaimed water extraction system that will draw raw wastewater and pump it through a membrane filter to extract/skim reclaimed water for irrigation on the Par 3 Municipal Golf Course.	0.05	$150,000	$500,000
Town of Highland Beach **Reverse Osmosis Membrane Trains** In support of the construction of a new reverse osmosis water treatment plant, the project involves the construction of reverse osmosis membrane trains for the production of potable water supply.	1.39	$300,000	$1,200,000
Palm Beach County **Reclaimed Water Facility Expansion** The project is an upgrade of the existing reclaimed water system to provide an additional 6 mgd of reclaimed water to area golf courses.	6	$300,000	$2,280,000
South Martin Regional Utility **Ocean Outfall for Reverse Osmosis By Product** In order to reduce dependence on the surficial aquifer, wells have been constructed into the Floridan aquifer with treatment of brackish water by reverse osmosis (RO) at a new membrane treatment facility currently under construction. This project includes ocean outfall for RO potable water byproduct or concentrate. Construction of the ocean outfall will enable the proposed RO treatment plant to operate, which is essential to developing the Floridan aquifer as an alternative water supply source.	1	$150,000	$817,500
City of Miami Beach **Bayshore Golf Course Reuse Irrigation** An interconnected lake system will store brackish water on-site to be used as a primary irrigation source for the golf course; salt-tolerant grass has been installed at the golf course.	0.4	$226,095	$1,156,143
South Central Regional Wastewater Treatment & Disposal Board **Reuse Plant Expansion** The South Central Regional Wastewater Treatment and Disposal Board intends to expand their treatment process to allow 100% of the incoming effluent to be treated to reclaimed water standards with the intent of creating a resource that is completely recycled. The project involves expansion of the treatment and pumping systems and is for a 1.5-mgd storage facility.	14	$300,000	$12,572,000

Applicant Project Title Project Description	Additional Water (mgd)	SFWMD Funding	Total Project Cost
City of North Miami Beach **Floridan Production Well Construction** The project will construct two Floridan production wells to help the utility reduce dependence on Miami-Dade WASD and the Biscayne Aquifer.	0.0216	$300,000	$628,000
Village of Wellington **Wastewater Reuse System** The project is the first step in establishing a reuse system for the Village. The project includes initial design and construction of filtration, disinfection, pumping and piping systems to provide reuse water to end users.	1	$300,000	$1,143,000
Seminole Golf Club **Reverse Osmosis Treatment Facility** The project involves installation of a Floridan well and a reverse osmosis water treatment plant on the site of the Seminole Golf Club to be used for golf course irrigation.	1.2	$150,000	$1,114,000
Ft. Pierce Utilities Authority (FPUA) **Wastewater Reuse System** The project consists of implementation of a reclaimed wastewater project to provide cooling water to FPUA's King Power Plant. Currently, the King Power Plant uses an average of 250,000 gallons per day (gpd) potable water from FPUA's potable water system for cooling purposes. This project has a two-fold benefit. It will substitute 250,000 gpd of potable water with reclaimed water, while reducing discharges to its deep well injection by the same amount.	0.25	$300,000	$3,150,000
City of Ft. Myers **Heritage Palms Reclaimed Water Transmission Mains** The project involves construction of a reclaimed water transmission main, an extension of the reclaimed water main already constructed. It will provide reclaimed water for two golf courses, open spaces, including residential lots and linear green spaces that currently utilize potable water and shallow groundwater or surface water for irrigation. By supplying more reclaimed water for irrigation, need for potable water will be reduced by .5 mgd and the two golf courses which withdraw water from the Surficial Aquifer System (SAS), will be served, eliminating ~1 mgd of demand on the SAS. An additional benefit will be a reduction in the volume of treated effluent that will require discharge to the Caloosahatchee River.	0.5	$300,000	$2,755,808
Lee County **North Lee County Reverse Osmosis Water Treatment Plant** The project is for construction of a 5-mgd reverse osmosis water treatment plant, drawing water from the Lower Hawthorn. Initially seven wells will be constructed as a deep injection well and transmission lines. The project will produce up to 10 mgd, directly replacing water from the Caloosahatchee River.	5	$300,000	$24,200,000
Lee County **Olga Aquifer Storage and Recovery (ASR) Water Treatment Plant Expansion** The project consists of a 5-mgd expansion of the Olga Water Treatment Plant in East Lee County from 5 mgd to roughly 7–10 mgd. The expansion uses surface water from the Caloosahatchee River with ASR and an upgrade to the treatment plant components. The purpose of the project is to store the finished water to meet increased water demands in the County and to help maintain established minimum flows and levels in the Caloosahatchee River. The water treatment plant facility currently operates at or near capacity during seasonal peak demands.	2	$150,000	$11,030,800
TOTALS	**45.21**	**$4,006,095**	**$71,287,894**

Five Years of Creating Water

During the past five years the AWS Program funded 76 projects. If an analogy of the new water realized by these projects were expressed in terms of water utility production, it would be one of the largest utilities in the state, with 238 million gallons of water being produced daily. In many cases, the projects not only create a new water source for potable purposes, irrigation, cooling or other uses, but also reduce the need for wastewater disposal. During the 1999–2003 period, 39 reclaimed water facilities were assisted by alternative water supply grants.

The SFWMD has provided $16 million to fund alternative water supply projects over the last five years; projects worth $242 million have been built, making the AWS Funding Program a very efficient and productive effort for both the SFWMD, its partners and the public. As the availability of freshwater becomes more limited, development of alternative water supplies and technologies to treat and store these sources, are crucial in meeting the growing need for freshwater.

Alternative Water Supply by Planning Regions

There are four water supply planning regions in the SFWMD (**Figure 2**), each with unique water supply issues. Through 2003, only projects located in a designated Water Resource Caution Area were eligible for alternative water supply funding. The Kissimmee Basin Planning Region is not in a Water Resource Caution Area and has not been eligible for AWS funding. However, in 2002, legislation was passed changing eligibility to include projects located outside of Water Resource Caution Areas. As a result, projects in the Kissimmee Basin Planning Region will be eligible for AWS funding in FY 2004.

Regional funding over the past five years for alternative water supply projects is shown in **Table 2**, including the amount of funding and new water made available in million gallons per day. Detailed descriptions of individual projects can be found in the AWS Funding Program annual reports for the respective fiscal year.

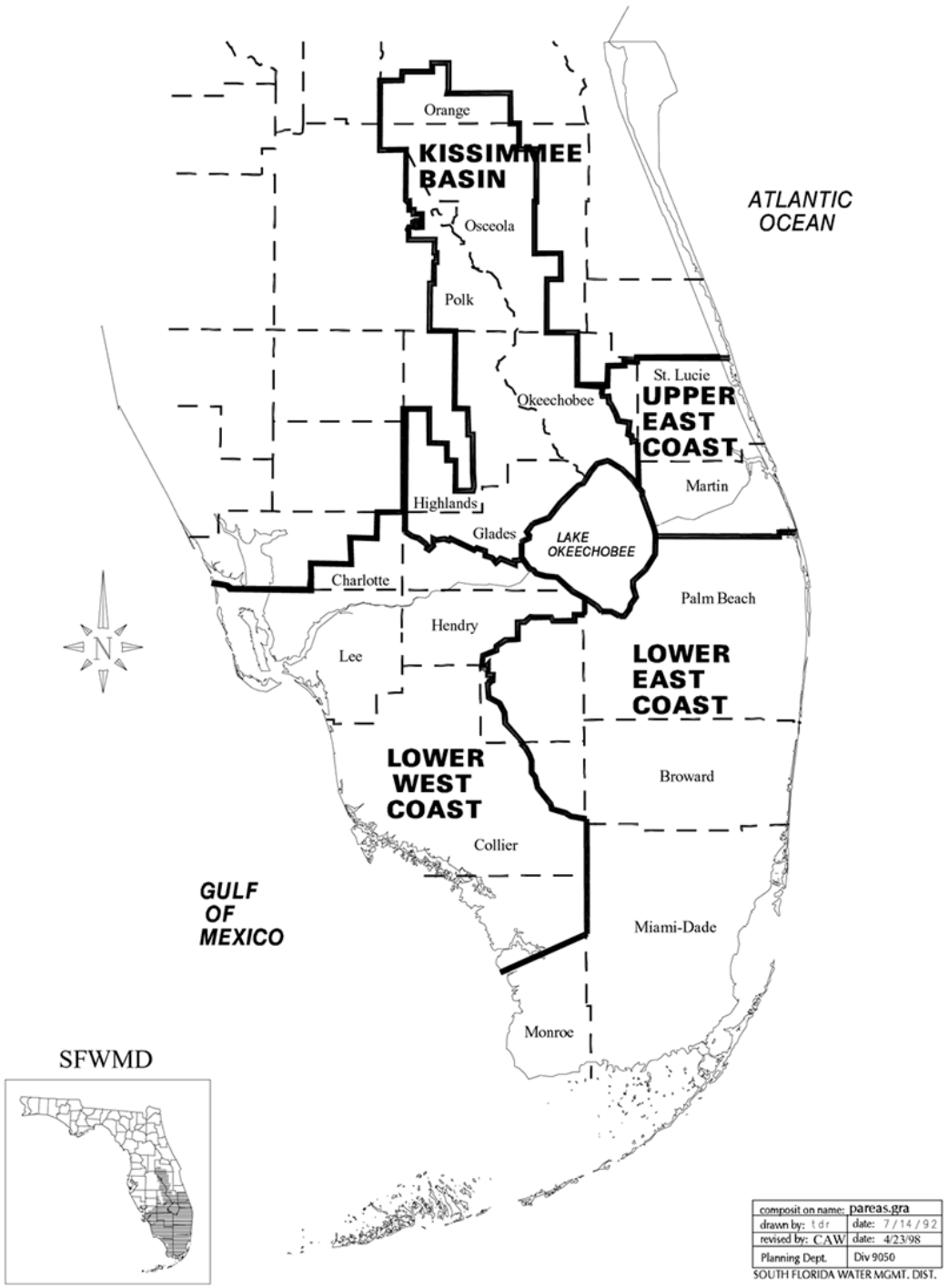

Figure 2. Water Supply Planning Regions within the SFWMD

Table 2. Regional Funding for Alternative Water Supply Projects, FY 1999–2003.

Regional Totals 1999-2003

Region*	Number of Projects	SFWMD Funds	Total New Water (mgd)
Upper East Coast	17	$ 3,179,800.00	28.53
Lower East Coast	34	$ 7,493,495.00	121.9216
Lower West Coast	25	$ 5,055,985.00	87.79
Grand Total	76	$ 15,729,280.00	238.24

*Kissimmee Basin will not be included until 2004

sfwmd.gov

South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406
561-686-8800 • FL WATS 1-800-432-2045
www.sfwmd.gov

MAILING ADDRESS: P.O. Box 24680
West Palm Beach, FL 33416-4680